OPTIONS FOR DATABASE COOPERATION BETWEEN THE ARCTIC INSTITUTE OF NORTH AMERICA AND THE BOREAL INSTITUTE FOR NORTHERN STUDIES

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There are a number of different options available for database cooperation between the Arctic Institute of North America (AINA) and the Boreal Institute for Northern Studies (Boreal). These are outlined below, together with a summary of the advantages and disadvantages of each. A similar set of options applies to database cooperation at the international level.

1. Pre-1987 state - no cooperation other than limited joint marketing.

Advantages:

- each institute pursues its own mandate and is free to expand, contract, or re-direct its efforts as it wishes.

Disadvantages:

- users are presented with two different sets of overlapping and non-comprehensive products.
- there is duplication of effort in indexing/cataloguing, production of products, and systems development and maintenance.
- the two institutes are foregoing opportunities to make coordinated approaches to funding agencies.

2. Present state - separate databases and separate products, but a reduction in overlap between the databases based on a division of material by form. One or more vendors should have both databases mounted.

Advantages:

- users see less overlap and better overall coverage than under Option 1.
- much duplication in indexing/cataloguing is eliminated.
- does not require any significant changes to systems and procedures, nor to existing records, so no monetary cost.

Disadvantages:

- users still must use two different sets of products, and the combined coverage, even of just the Canadian Arctic, is still far from comprehensive.
- neither database is able to produce comprehensive special bibliographies without manually copying many of the necessary records from the other database. Besides being inefficient, this copying increases user frustration by increasing overlap.
- continued duplication of effort in production of products and in systems development and maintenance.
- does not significantly increase opportunities for funding since there are

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still two separate systems, with all the disadvantages for users which that creates.

3. Allow database vendors to merge the databases online, but maintain separate production versions and separate hardcopy products. (It is not known whether this alternative is possible. So far, vendors have indicated that they would prefer Option 7, where we merge the databases.)

Advantages:

- same as Option 2, plus users only have to search a single database.
- cheaper than Option 7.

Disadvantages:

- same as Option 2, except there is a single online product.
- lower quality merge than with Option 7. Records from the two different production databases have somewhat different formats in the merged database. Some records in the merged database have UDC subject/geographic indexing and some have ASTIS subject/geographic indexing, so there is no single system of subject/geographic access that applies to all records. The program for eliminating duplicate records does not catch all duplicates, and discards some records that are not duplicates.
- vendors expect payment, or reduced royalties, for doing the merging.
- if the database is up on more than one vendor, as planned, then each vendor must do its own merging - a duplication of effort.

4. Separate databases and separate products, but exchange records in machine readable form.

Advantages:

- reduces duplication in indexing/cataloguing, therefore freeing resources to improve comprehensiveness.
- does not require major changes to existing systems, although new software to facilitate the exchange is necessary.
- allows each Library/Institute to produce and market products which can be identified with that Library/Institute and therefore enhance its visibility.

Disadvantages:

- users still must use two different sets of products. They still have to search two databases, but now find an increased number of duplicate records in their two searches. They will have to pay twice for these records, and go to the trouble of weeding them out of their search results.
- does not significantly increase opportunities for funding because of the disadvantages for users.
- continued duplication of effort in production of products and in systems development and maintenance.
- some manual effort required to reformat the records being exchanged. Less work than original indexing, but more work than in Option 7 where no reformatting is necessary.
- since the two databases have very similar mandates, almost all records

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would be exchanged. The main exception is ASTIS' research project descriptions. The two institutes are therefore paying to store and maintain two copies of what is really the same database. Exchange of records only makes sense for databases with low to medium amounts of overlap in their mandates. (This may be true for cooperation at the international level, for example.) If the overlap in mandates is large then it will always be more efficient to work together on a single database.

5. Convert one database to the other's format.

   Advantages:

   - requires less new programming of output formats than Option 7.

   Disadvantages:

   - does not correct the problems of the existing databases. ASTIS and BOREAL are 10 and 11 years old respectively. Software and hardware capabilities have improved greatly during that time, the needs and expectations of clients have changed, and both institutes have learned a great deal more about what they want from a database. Both databases have deficiencies which could be corrected with a new design.
   - there may be more work (both manual reindexing and programming) required to convert all the records of one database to the other's format, than is required to convert both databases to the best possible common format as in Option 7.
   - still requires significant software changes since neither database can produce all the required products.

6. Define a common format for a merged database but use only for new records.

   Advantages:

   - no cost for converting older records.

   Disadvantages:

   - all the work done over the last eleven years is abandoned.
   - the Boreal Library catalogue is two separate databases.

7. Define a new format and convert all existing records to produce a single joint database. Design of the new format is based on user needs, ease of conversion from existing ASTIS and BOREAL formats, and compatibility with other databases. Each institute is to be responsible for adding and updating certain records, divided on the basis of form, within the merged database. Production of external products and systems development and maintenance are conducted jointly, and costs and revenues are shared. Appendix A contains a plan, with cost estimates, for the merger.

   Advantages:

   - users have a single source of arctic information, with one coordinated set of products and no duplicate records.

- the efficiencies realized in production, development, and maintenance can be devoted to additional indexing/cataloguing, thus allowing the database to be as comprehensive as financial resources allow.
- encourages rationalization of the two institutes' library collections.
- provides a Canadian point of contact for international networking of polar bibliographic information.
- the two institutes are seen by our universities, provincial government and federal government to be cooperating closely.
- a single information system allows the two institutes to approach funding agencies for the resources necessary to make the database truly comprehensive. A joint AINA/Boreal database may present the only hope for obtaining the level and security of funding necessary to develop a comprehensive Canadian polar information system.

Disadvantages:

- the most expensive alternative to implement, although operating costs should not increase. While some of the cost can be covered by the diversion of existing resources, significant new outside funding must be assured before the database merger can begin.

We recommend Option 7 if funding can be obtained to implement it. Failing that, Option 3 is preferable.

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